

Trends in alcohol-impaired driving in Canada

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Abstract

Background

Drinking and driving continues to be a major road safety problem in Canada with 744 persons killed in crashes involving a drinking driver and 37% of fatally injured drivers testing positive for alcohol in 2010, the most recent data year available.

Aims

This paper describes recent trends in drinking and driving in Canada to better understand the current situation, and to determine whether the magnitude of the problem has been increasing or decreasing.

Methods

Multiple indicators are used to examine trends in drinking driving behaviour and alcohol-related fatalities. Data sources include: A National Fatality Database, a comprehensive source of national data compiled annually by the Traffic Injury Research Foundation (TIRF) from coroner/medical examiner files and police reports on fatal crashes; and the Road Safety Monitor (RSM), an annual National Public Opinion Poll on Drinking and Driving conducted by TIRF.

Results

From 1995 to 2010 in Canada, there has been a continued and fairly consistent decrease in the number of fatalities involving a drinking driver in absolute terms as well as when these numbers are standardized into per capita and per licensed driver rates. The number and percent of fatally injured drivers testing positive for alcohol have also declined over this study period. Survey data from the RSM further show that the percentage of those who reported driving after they thought they were over the legal limit has also decreased consistently and significantly since 2008.

Discussion and conclusions

Despite the apparent decreasing trend in drinking driving fatalities and behaviour since 1995, reductions have been relatively modest in recent years, and fatalities in crashes involving drivers who have consumed alcohol remain at high unacceptable levels.

Introduction

Previous research has demonstrated that the magnitude of the alcohol-fatal crash problem in Canada declined in the 1980s and again in the 1990s (Brown et al. 2012; Mayhew 2010; Vanlaar et al. 2012). However, the decrease in the drinking and driving problem was less pronounced in the 1990s. To better understand recent trends, this paper examines changes in the drinking and driving problem using a variety of indicators such as the number and proportion of persons killed in crashes involving drinking drivers, the percentage of fatally injured drivers testing positive for alcohol, and self-reported drinking and driving behaviour.

Method

Data on alcohol use in fatal crashes were obtained from the National Fatality Database which is developed and maintained by TIRF. This National Fatality Database until recently was jointly funded by the Canadian Council of Motor Transport Administrators (CCMTA) and Transport Canada. The Fatality Database provides a comprehensive source of objective data on alcohol use among fatally injured persons in Canada – over 80% of fatally injured drivers in Canada are tested for the presence of alcohol each year. These data are compiled using two sources of information: (1) police reports on fatal motor vehicle collisions and (2) coroners' and medical examiners' reports, which contain the blood alcohol concentration results (see TIRF 2013).

The number of persons killed in a traffic crash involving a drinking driver reported in this paper is based on alcohol-related fatalities occurring on public roadways involving at least one principal vehicle type (automobile, truck/van, motorcycle, or tractor-trailer). A motor vehicle fatality is defined as any person dying within 12 months as a result of injuries sustained in a collision involving a motor vehicle. Drinking drivers who were killed are also included among the fatalities

Self-reported drinking and driving behaviour from 1998 to 2012 is derived from the Road Safety Monitor (RSM), an annual public opinion survey developed by TIRF to take the pulse of the nation on key road safety issues. The RSM includes a core set of questions, notably on drinking and driving that are asked each year to provide information on trends in attitudes, opinions and behaviours. A total of 903 Canadians completed the poll in 2012 (TIRF 2012). Results can be considered accurate within plus or minus 3.3%, 19 times out of 20.

Results

The Number and Percentage of Canadians Who Die in Traffic Crashes Involving a Drinking Driver

As shown in Figure 1, in 2010, 744 Canadians were killed in a traffic crash involving a drinking driver. This is a slight increase compared to 2009 when there were 714 drinking driving fatalities. With the exception of 2010, this represents a continued and consistent decrease since 2006 and is below the 2004 number (815), the lowest count from 1995 through 2008. It appears a decreasing trend in fatalities may be emerging in recent years, which will have to be further monitored given the slight increase in the numbers in 2010.

Figure 1 also shows the annual percentage of persons killed in a traffic crash in Canada involving a drinking driver. In 2010, of all persons fatally injured in a motor vehicle crash, 34% involved a drinking driver. As can be seen, this percentage has decreased from a high of almost 40% in 1995 and has been fairly consistent since 1999 remaining around 30%.

A similar pattern emerges in Figure 2 when controlling for overall population changes by examining: the number of persons killed in a traffic crash involving a drinking driver per 100,000 population aged 16 and over; and the number of persons killed in a traffic crash involving a drinking driver per 100,000 licensed drivers. As can be seen, there has been a fairly consistent decline in both per-capita and per-driver rates over this study period.

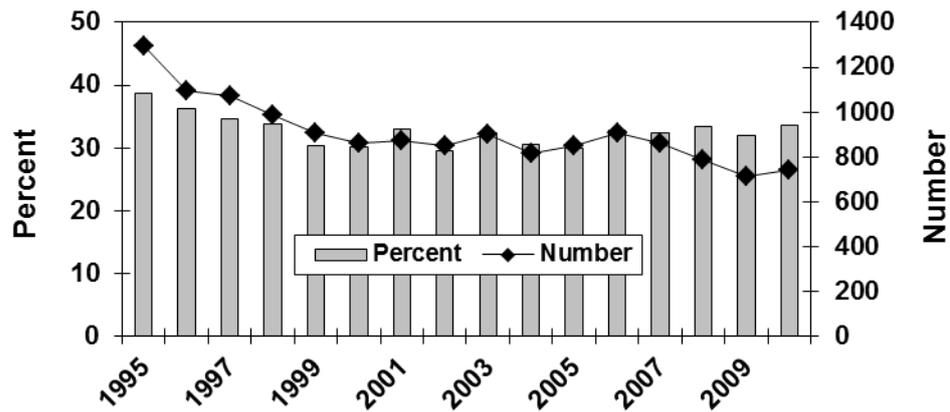


Fig. 1: Number and percent of deaths involving a drinking driver: Canada, 1995-2010

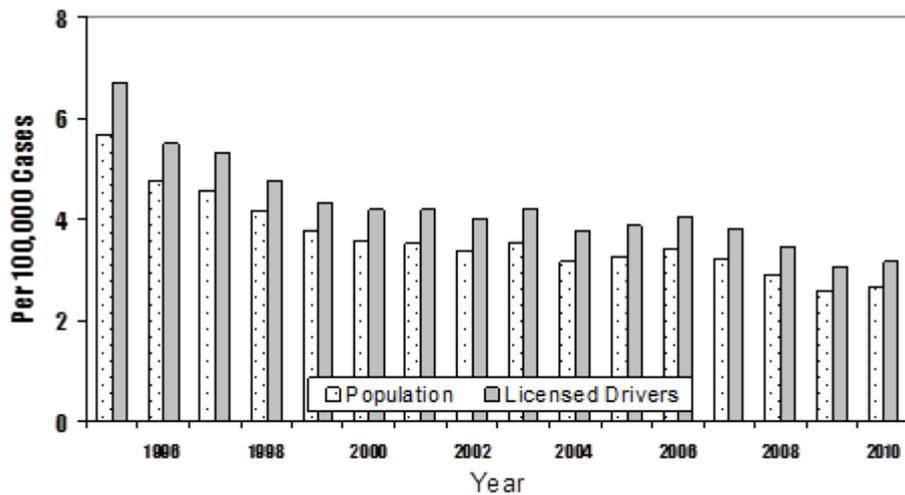


Fig. 2: Number of deaths involving a drinking driver per 100,000 persons aged 16+ and licensed drivers: Canada, 1995-2010

The Number and Percentage of Fatally Injured Drivers with Positive BACs in Canada
 Figure 3 show the numbers of non-drinking and drinking fatally injured drivers and the percentage of these drivers who were positive for alcohol. As can be seen, both the numbers of non-drinking and drinking fatally injured drivers have declined since about 2005. As a consequence of the declines in both these groups, the annual percentage of fatally injured drivers who tested positive for alcohol has remained in the range of 36-39%. From 2008 (39%) to 2010 (37%), however, there has been a slight decline in this indicator, which is suggestive of a new downward trend that needs to be monitored and confirmed over the next few years as data become available.

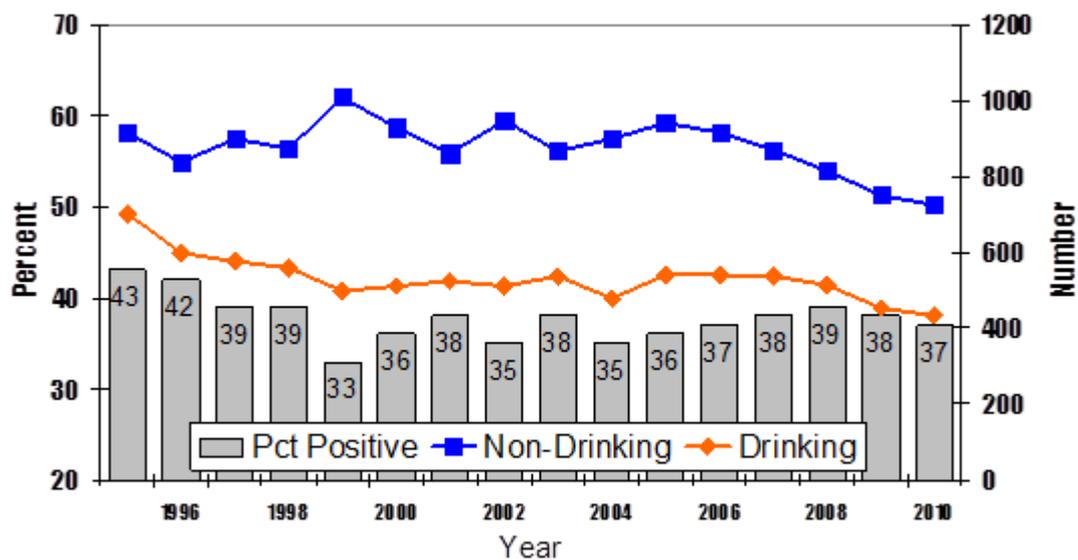


Fig. 3: Number of non-drinking and drinking fatally injured drivers and percent positive for alcohol: Canada, 1995-2010

A comparison of the percentage of fatally injured drivers positive for alcohol in Canada and the United States from 1995 to 2010 is provided in Figure 4. Both countries have seen comparable reductions in the percentage of fatally injured drinking drivers during the early and more recent part of this study period. From 2004 to 2010, the percentage of fatally injured drivers with positive BACs in Canada and the United States has been almost identical.

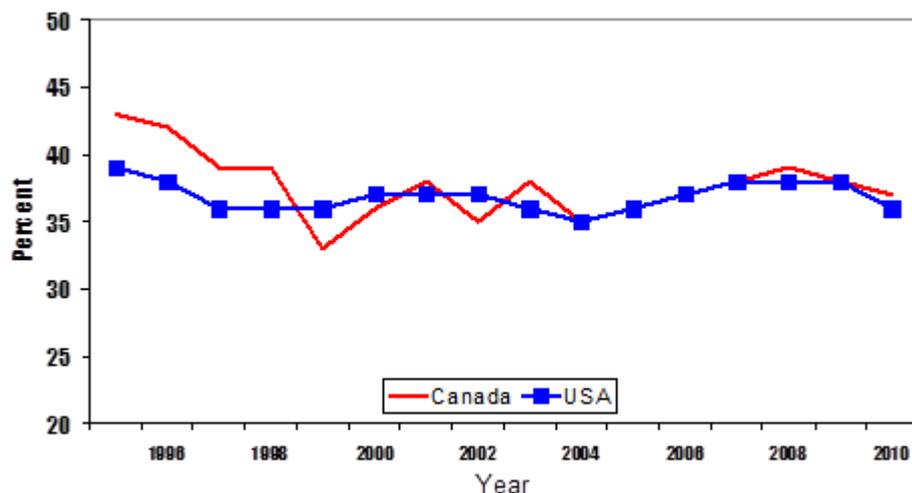


Fig. 4: Percent of fatally injured drivers with positive BACs in Canada and United States: 1995-2010

The Percentage of Self-reported Impaired Drivers

The above trend analyses focused on trends in indicators of the consequences of drinking and driving (i.e., drinking driving fatalities) and not indicators of the prevalence of this behaviour. In the RSM, when asked about driving when they thought they were over the legal limit in the past 12 months, 3.6% of Canadians admitted to doing this in 2012 (see Figure 5). This represents a significant decrease compared to 2011 when the percentage was 5.4%. Of importance, the percentages from 2008 to 2012 do appear to confirm the considerable drop from 8.2% in 2007 to 5.2% in 2008. Reasons explaining the additional decrease in 2012 to 3.6% are not immediately apparent but this finding is encouraging. It suggests that drinking driving fatalities in 2011 and 2012 may also further decrease. Further monitoring is needed.

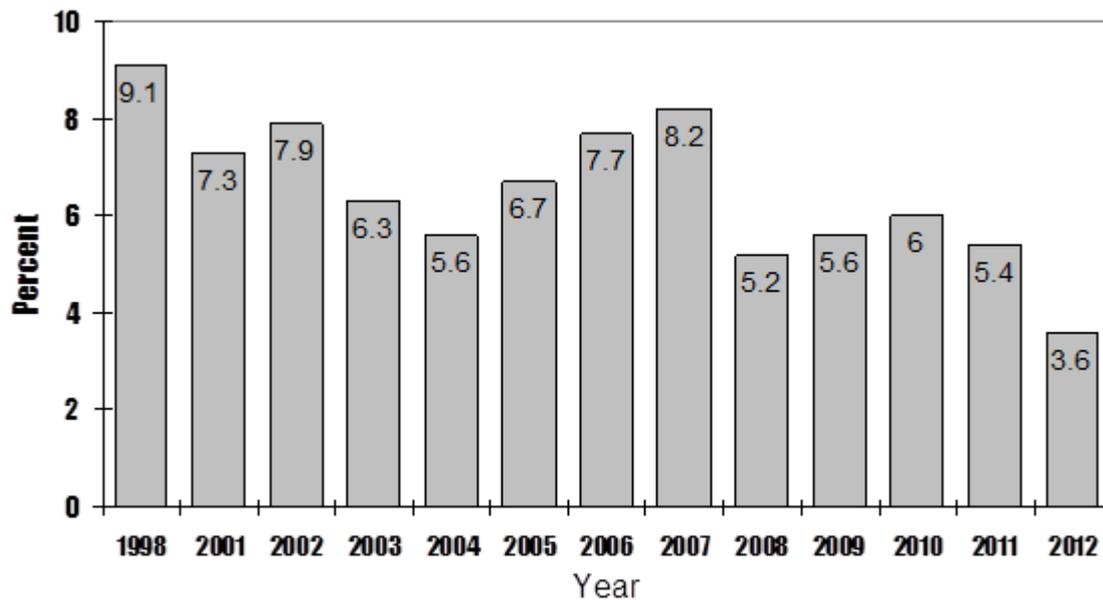


Fig. 5: Percentage of respondents who reported driving while over the legal limit for alcohol: Canada, 1998-2012 (based on Road Safety Monitor)

Conclusion

There has been a continued and consistent decrease in the number of fatalities involving a drinking driver in Canada dropping to 714 in 2009, albeit increasing only slightly to 744 in 2010. A similar pattern is apparent when looking at the number of persons killed in a traffic crash in Canada involving a drinking driver per 100,000 population and per 100,000 licensed drivers. As well, the number of drinking fatally injured drivers has declined and there is some suggestion that the percentage of fatally injured drivers with positive BACs has also decreased slightly in recent years. A similar trend to Canada in the percentage of fatally injured drinking driver is also apparent in the United States. Finally, the percentage of those reporting drinking and driving when they thought they were over the legal limit has also decreased consistently and significantly since 2008.

More data are needed to further monitor these trends and to confirm whether the situation is indeed improving or not, especially in light of the slight increase in the number of fatalities involving a drinking driver from 2009 to 2010. Finally, regardless of an apparent decreasing

trend in these indicators of the drinking and driving problem, fatalities in which drivers have consumed alcohol remain high at unacceptable levels in Canada. This also speaks to the need for further research to better understand the reasons for changes in alcohol-impaired driving that will provide insights into more effectively addressing the problem.

References

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